[FSW Test Scenario Template]

[A **test scenario** is a detailed description of the test configuration, input data, sequential steps, and expected results necessary for testing a functionally or logically related set of requirements (as in the case of Build Verification Testing) or major systems-level functions (as in the case of Systems Validation Testing). "Test configuration" refers to the FSW Test Facility hardware and software configuration, FSW versions configuration, and initial FSW and simulator conditions (e.g. the FSW mode in which the test starts, spacecraft attitude, orbit, and hardware configuration, etc.). "Input data" refers to system table loads and other data loads that are made to the FSW during the course of the test.

As you fill out this template, remove this page and the blue tailoring advice text. Input for the test name, level, type, and description should be copied from the original test description document and updated as needed.

Template Update History

Version	Date	Description	Affected Pages
1.0	02/23/04	Original	All
1.1	01/09/06	Final changes based on 01/03/06 review by Test Team Leads.	All

The template begins on the next page.]

[Test Scenario Name]

Test Name: [Provide test scenario name, this name should also be used as the procedure name.]

Test Level: [Either Build Verification or System Validation]

Test Type: [System Validation only: Identify test type. Test types include: External Interface, Functional, Performance, Load/Stress, Long Duration, Regression]

Test Description

[Enter a short paragraph that states the test purpose, test objectives, and provides a brief description of the test(s). If the test sequence is to be run multiple times with different initial conditions and/or inputs, then describe each case here.]

Requirements Tested

[Identify the software module or system requirements addressed by the test scenario. Provide the requirement number assigned by the Requirements Tracking Tool. This section will help to facilitate the production of the Requirements to Test Traceability Matrix]

Rqmt #	Requirement	Step
[Rqmt Number]	[Actual text of the requirement]	[Step numbers where the requirement gets verified]

Commands Tested

[Identify the commands that get explicitely tested by the scenario. Note do not list commands that get used in the test but not tested.]

Cmd Mnemonic	Parameters	Command Description	Tlm Verifier	Rqmt #
[Command Mnemonic if available]	[List of any command parameters. If applicable, indicate ranges or possible input values]	[A short description of the command]		[The requirement number where the command gets specified]

Telemetry Tested

[Identify the telemetry points that get explicitely tested by the scenario. Note do not list telemetry that gets used in the test but not tested.]

Tlm Mnemonic	Telemetry Description	Rqmt #
[Telemetry Mnemonic if available]	[A short description of the telemetry point]	[The requirement number where the telemetry gets specified]

Prerequisite Conditions

[Identify any prerequisite conditions that must be established prior to performing the test scenario. The following items should be discussed as applicable:

- Testbed hardware fidelity (e.g., Bread Board (BB), Engineering Test Units (ETUs), Simulators).
- Testbed software fidelity

- Configuration of simulators (e.g., input files)
- Hardware and Software configuration (including preset hardware conditions) to run test scenario
- Table loads, software control parameters, display pages, database versions
- Testbed and simulation environment preparation (including start up procedures)
- Other special conditions peculiar to the test scenario]

Assumptions and Constraints

[Identify any assumptions made and constraints or limitations imposed due to system or test conditions, such as limitations on timing, interfaces, equipment, and database/data files.

Note: All constraints and limits shall be tracked via DCR.]

Required Post-Test Analysis

[Identify post-test data reduction and analysis, as applicable. Describe how test data collected during the test is reduced to a useful form for analysis. Also include how to perform analysis on the reduced data to evaluate test results. The following should be provided, as applicable:

- Facilities used to post processed telemetry and dump data for analysis
- How events extracted from collected test data will be used during analysis
- Identify any software tools used during post-test analysis. The software tools will not be described in this section. Only how the tool was used for this test scenario
- Provide engineering and mathematical analysis used for data reduction and/or analysis

Note: Identify the person (i.e., position title such as GN&C analyst) responsible for conducting data analysis if it is not the test lead.]

Change History

[Provide an outline of the development history for the scenario. Under Date, specify the month, day, and year of the change. Under Name, specify the first initial and the last name of the author for the current implementation or change to the scenario. Under Description, briefly describe the change. For the first entry of a new scenario, specify “original scenario" under Description. Change history should not be tracked until after all scenario walkthrough comments have been incorporated.]

Date	Name	Description
[08/01/03]	[A. Smith]	[Original Scenario]

Scenario Sequence

[Describe the sequence of steps for this test. The appropriate level of detail in each test scenario depends on the type of test being executed. The following should be provided for each step in test scenario, as applicable:

- Test operator actions and equipment operation
- Expected results and evaluation criteria, as applicable. For each test result, the following information should be provided, as applicable:
  - The range or accuracy over which an output can vary and still be acceptable
  - Minimum number of combinations or alternatives of inputs and output conditions that constitute an acceptable test result
  - Maximum/minimum allowable test duration, in terms of time or number of events
  - Maximum number of halts or system breaks that may occur
  - Allowable severity of processing errors
  - Conditions under which the result is inconclusive and re-testing is to be performed
  - Conditions under which the outputs are to be interpreted as indicating irregularities in input test data, in the test database/data files, or test procedures

Allowable indications of the control, status, and results of the test and the readiness for the next test scenario (may be output of auxiliary test software)]

- Requirements addressed
- Actions to follow in the event of a program stop or indicated error
- Actions to reduce and analyze test results

There are two format options for documenting the sequence. Select preferred format.]

[FORMAT 1: Scenario Sequence]

Step 0.0

[List any special setup required for the test]

Step [1…n]

[Enter description of scenario step. As applicable, include requirements verified, expected results and evaluation criteria. Add additional steps as needed]

Step [1.x … n.x]

[Enter description of scenario substep. As applicable, include requirements verified, expected results and evaluation criteria. Add additional steps as needed]

[FORMAT 2: Scenario Sequence]

Step	Sequence of events	Expected Results and Evaluation Criteria	Requirements Verified	Notes
0.0	[List any special setup required for the test]			[Use this field to clarify the step or set of steps. In particular this field should be used to explain what is trying to be accomplished or why it has been included.]
1…n	[Enter description of scenario step. Add additional steps as needed]	[As applicable, include expected results and evaluation criteria]	[Enter requirements verified]	
1.x…n.x	[Enter description of scenario substep. Add additional steps as needed]	[As applicable, include expected results and evaluation criteria]	[Enter requirements verified]	